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54 **A DEVICE FOR CUTTING PLYWOOD VENEER.**

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## Description

The object of the invention is a device for cutting plywood veneer.

The device is intended for cutting the veneer web issuing forth from a plywood lathe. The cutting is executed either so that the faulty spots are cut off or the veneer web is cut into sheets of certain width at set intervals. The device is especially intended for a veneer cutting application in which the veneer web cut off a log is slit into two parts in the longitudinal direction, i.e. in the direction of motion of the veneer web in so far as the web has faulty spots. The slitting is normally executed essentially along the middle of the web. Following the implementation of this method, the faults are removed independently from either part of the veneer web, whereas the sound part of the web is cut to set widths along the entire web without slitting it.

While the said method does save web, because faulty spots seldom extend very far across the web, it also imposes great demands on the cutting apparatus. In applications of this method it is known for more than one slitter to be used; that is to say, two narrow slitters are used for cutting off the faulty spots in the two halves of the web and one full-size slitter is used for cross cutting complete web sections.

The invention that is the subject of this application brings about an essential improvement to the said problem in that the device in accordance with the invention makes it possible to execute both the cutting off of faulty spots in the web halves as well as the cutting into set widths of complete web sections. The device in accordance with the invention is based on what may be called the technique of a rotary-blade cutter which embodies a cutting blade reaching across the web to be cut, the said cutting blade lending itself to be rotated in a controlled manner into cutting contact with a selected cutting point on the veneer web. The rotary motion of the said blade has been selected to be such that it complies with the forward motion of the veneer web whereupon the blade does not cause the veneer web to be arrested on being cut.

Usually this type of a cutting blade works in unison with a roller supporting the veneer web or with a corresponding opposing organ against which the blade is forced in order for the cutting action to be executed. The blade can be made to sufficiently massive for the cutting operation to occur successfully. The said massiveness of the blade may be achieved, for instance, by making the blade shaft sufficiently solid. Alternatively, the cutting apparatus may embody an abutting organ on the side opposite to the blade, the said abutting organ providing the blade with support for the cutting operation to be executed. The stiffness of a structurally

light blade can be increased by subjecting the blade shaft to tensile stress when in use.

In accordance with the invention, the said blade element is divided into two consecutive sections along its shaft, the rotational position of the said elements being such that they can be controlled independently.

The invention is described by means of the appended drawing.

The drawing shows the blade arrangement in accordance with the invention, the said arrangement embodying a shaft 1 reaching across the entire veneer web that is to be cut and the two blade elements 2' and 2'' supported by it. The blade elements may be rotated independently on the shaft 1 and they are provided with their own rotating apparatus. When the slit veneer web passes underneath the blade structure 2, and it contains random faults on one half or the other or simultaneously on both halves, the blade elements 2' and 2'' execute cutting operations on the web halves independently on one another in order to remove faulty spots from their respective halves.

Once the peeling of the veneer web has proceeded onto the sound part of the peeled log, the slitting of the veneer web coming to the slitter is discontinued and the control for the blade elements 2' and 2'' are combined to obey the same command, this command usually being to cut the veneer web into sheets of certain width. When executing this function, the blade elements 2' and 2'' are, of course, angularly in unison with one another and form a contiguous blade reaching across the veneer web. The said joint-function model may include situations in which the veneer web contains faulty spots that need to be removed. When this is the case, the faulty spots are cut off in strips extending across the entire veneer web by the blade elements 2' and 2'' working in unison.

In deviation from the above execution model, where the blade elements 2' and 2'' are composed of two blades 2'a, 2'b, and correspondingly 2''a, 2''b, the blade elements may consist more blades; e.g. four blades positioned at even angles on a shaft. Even one blade per blade element 2' and 2'' forms a functioning solution.

## Claims

1. A device for cutting a veneer web into sheets of certain width and/or for removing faulty spots by means of a cutting blade (2) that can be rotated in a controlled manner on a shaft (1), the said blade (2) traversing essentially crosswise across the veneer web and lending itself to be rotated into cutting contact with the veneer web to execute a crosswise cut so that the blade complies with the motion of the

veneer web, **characterized in that** the blade (2) is formed of two independently controllable sections (2', 2'') along the shaft (1).

2. A device in accordance with claim 1, **characterized in that** each of the blade sections (2', 2'') extends to half-way across the veneer web to be cut. 5
3. A device in accordance with claim 1 or 2, **characterized in that** both of the blade sections contain two blades (2'a, 2'b; 2''a, 2''b) oppositely located with respect to the shaft (1). 10
4. A device in accordance with any of claims 1 to 3, **characterized in that** the blade (2) is arranged to cut the veneer against a supporting roller while at the same time behind abutting on a supporting organ. 15
5. A device in accordance with claim 4, **characterized in that** the blade shaft (1) is under tensile stress. 20
6. A device in accordance with any of claims 1 to 3, **characterized in that** the blade (2) is mounted onto a massive shaft (1) that is solid enough to provide the blade with sufficient support for the execution of the veneer cutting operation. 25

#### Patentansprüche

1. Vorrichtung zum Schneiden von Furnierholz in Blätter bestimmter Breite und/oder zum Entfernen fehlerhafter Stellen mittels eines Schneideblattes (2), das in gesteuerter Weise auf einer Welle (1) rotiert werden kann, wobei das genannte Blatt (2) das Furnierholz im wesentlichen kreuzweise überquert und in schneidendem Kontakt mit dem Furnierholz rotiert werden kann, um einen kreuzweisen Schnitt auszuführen, so daß das Blatt der Bewegung des Furnierholzes folgt, dadurch gekennzeichnet, daß das Blatt (2) aus zwei unabhängig voneinander steuerbaren Abschnitten (2', 2'') längs der Welle (1) besteht. 35
2. Vorrichtung nach Anspruch 1, dadurch gekennzeichnet, daß jeder der Abschnitte (2', 2'') des Blattes sich über den halben Weg des zu schneidenden Furnierholzes erstreckt. 40
3. Vorrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß beide Blattabschnitte zwei Blätter (2'a, 2'b; 2''a, 2''b) enthalten, die in Bezug auf die Welle (1) gegenüberliegend angeordnet sind. 45

4. Vorrichtung nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß das Blatt (2) angeordnet ist, um das Furnier gegen eine Stützrolle zu schneiden, während es sich gleichzeitig hinten gegen ein Stützorgan abstützt. 5
5. Vorrichtung nach Anspruch 4, dadurch gekennzeichnet, daß die Welle (1) des Blattes sich unter Zugspannung befindet. 10
6. Vorrichtung nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß das Blatt (2) auf einer massiven Welle (1) montiert ist, die solide genug ist, um das Blatt bei der Ausführung des Furnierschneidevorganges hinreichend zu unterstützen. 15

#### Revendications

1. Dispositif pour couper une bande de bois de placage en feuilles d'une certaine largeur et/ou pour éliminer les points défectueux au moyen d'une lame de coupe (2) qu'on peut faire tourner d'une manière réglée sur un arbre (1), ladite lame (2) s'étendant sensiblement transversalement d'un bord à l'autre de ladite bande de bois de placage et se prêtant à une rotation en contact de coupe avec la bande pour exécuter une coupe transversale, d'une manière telle que la lame suit le mouvement de la bande de bois de placage, caractérisé en ce que la lame (2) est constituée de deux parties, réglables indépendamment (2', 2''), le long de l'arbre (1). 20
2. Dispositif suivant la revendication 1, caractérisé en ce que chacune des parties de lame (2', 2'') s'étend sur la moitié de la largeur de la bande de bois de placage à couper. 25
3. Dispositif suivant la revendication 1 ou 2, caractérisé en ce que les deux parties de lame comprennent deux éléments de lame (2'a, 2'b, 2''a, 2''b) mutuellement opposés par rapport à l'arbre (1). 30
4. Dispositif suivant une quelconque des revendications 1 à 3, caractérisé en ce que la lame (2) est agencée de manière à couper le placage contre un rouleau d'appui tout en butant en même temps à l'arrière sur un organe support. 35
5. Dispositif suivant la revendication 4, caractérisé en ce que l'arbre de lame (1) est soumis à une contrainte de traction. 40

6. Dispositif suivant une quelconque des revendications 1 à 3, caractérisé en ce que la lame (2) est montée sur un arbre massif (1) qui est assez robuste pour fournir à la lame un support suffisant pour l'exécution de l'opération de coupe du bois de placage. 5

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